

No. 2

An
Inaugural Thesis

on the
Secale Cornutum

By

Charles C. Byrd

1820.

Philadelphia No. 86 Arch St.

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On the
Scolae cornutum.

It is an observation, which has frequently been made, and certainly it is a correct one, that a thorough acquaintance with the different articles of the *Materia Medica*, is absolutely necessary, to qualify the Physician for the exercise of the important duties of his profession, and, for the advancement of a profession, which has for its object, the alleviation, and cure, of human diseases, no effort should be spared, no means left untried, by which this desirable end can be attained. With these views I do not know that my feeble powers can be better directed, than in investigating the properties of the *Scolae cornutum*, or as it is called in the vernacular language of France, the *Ergot*, and in that of England and this Country, Spurred rye, Horned rye &c.

No article deserves more the attention of Medical men, than the one before us. It is highly interesting as regards its natural history, eminently important in a practical point of view, and certainly time is not mispent, in searching

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out its deleterious qualities. I shall, therefore, treat of it under these three heads, and through my time, which is, at present, occupied by all those diversified studies embraced in the science of Medicine, will not allow me to enter fully into a discussion, of the merits and demerits, of the various hypotheses which have been assumed, to explain the origin of this very singular production; still, I shall give such an account of it, as will accord with the opinions held on the subject at the present day.

The Ergot is now supposed to arise from a mushroom of the genus sclerotium, which is of a parasitical nature, and scientifically called Clavus. Before this plausible explanation was put forth, many conjectures were held on the subject. It was said at one time to arise from fermentation, and the simple experiments of the Abbé Pontana gave the idea, and certainly with some degree of reason, that it arose from contagion. But M. Le Gaudelle, whose opinion I have cited above, has studied the subject with much success, and taught a more correct theory with regard to it. Several of the grainoeous plants are liable to this

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disease, but, more particularly the rye, which has been destroyed by it in France, in great quantities. It forms an elongated excrecence, which occupies the place of the grain within the husk of the rye; rather larger generally than the seed itself, of a black colour externally, and white within, of a firm texture and disagreeable taste. It is found to occur in greater quantities in wet seasons, and a wet soil is favourable to its production; it abounds more in some districts of country than others, and it delights in a heavy rich soil, agreeing with the sclerotiums in all these particulars. To explain the manner in which the parasite reaches its place of destination, within the glume of the rye, Mr. Le Castelot has devised a very ingenious theory. According to him the seed falls to the ground, mingles with the soil, and is conducted to the interior of the cornplant, by the water that nourishes it, and is finally transmitted by the circulating fluids to the spot destined for its development.

The limits of these pages will not permit me to enter fully into the history of sclerotium, and by a course of analogical reasoning to prove the justness of this location.

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it is every circumstance of its origin and development, is so
exactly agrees with tuberculosis, as to leave a suspicion
reasonable to it.

With these remarks, I shall conclude what I have to say
of the natural history of the Stone cornua and proceed to
the second division of my subject, namely the application
of the drug to the Practitioner & Midwife.

To relieve the sufferings of the parturient female and to
preserve both the life of herself and infant, a remedy had
long been solicited and to furnish one, the inventive
genius of man has been exerted to no avail. But, all
efforts at discoveries in medicine which should operate so
specifically on the uterus, and terminate the contractions &
that vicious process, abortion, success was had to innumerable
and instrumental aid. These means however of checking
abortion, though they have been found to be of the most
marked advantage, by averting in numerous instances
the otherwise severe destruction of Mother & child, and

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frequently of both, are at all times occurring to the patients, and shocking to the mind of the medical man, and never fail to give the idea that his situation is serious in the extreme. The agent which destruction is bestowed into traction within the last two or three years, is said to be arsenic, is sometimes liable, as in many cases, to supersede the necessity of turning, and in most instances to obviate the use of the 'coups'. America claims with undoubted right the credit of this invention, and the course, and rules of practice of the State of New York are to be divided to whom the invention is indebted for this valuable acquisition. To whom her service brevity the utility of this article, and indeed the 'coup' which it has so effectively contrived, the Ursus is sufficient to be demonstrated by the rapidity with which it causes abortion in the inferior animals when given to them in a state of pregnancy, and it taken by a female in an animal state, it is seen to be in the region of the Ursus. I shall not however dwell on these facts which are well established. It is obvious, that an article so

* It is to be observed that the Ursus is much smaller in the United States.

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powerful in its action as the Ergot should be used with much caution, and must receive for its administration certain rules to which we should be governed. From the force and duration of the contraction brought on by it, it is highly important to attend to the state of the soft parts, and previous to exhibiting the medicine we should ascertain that the Os Uterus is sufficiently dilated and yielding; otherwise we should subject the mother to great pain, and incur the danger of rupturing the Uterus; an evil that can not be too carefully avoided. It is also proper, if the labour be sufficiently advanced, to satisfy ourselves that the evolution is natural; for should it be such as would require turning, it would be an arduous task if not wholly impossible to render successful manual assistance during the operation of the Ergot, and mischance might arise from the violence of the contraction. It is now time to point out such cases as demand the use of the medicine; whenever from any cause the contractile power of the uterus is destroyed, or suspended after having been once established, when the soft parts are in order, the

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is ~~thus~~ divided, the membranes outward, and the child
is at no time with it, may be given with safety, and
the issue will pass in most sanguine & violent; or
it soon becomes quiet, the pains & rest, for a part,
and not uterine, and the soft parts are in the proper
state, the same happy result will follow its administration,
and the trachinour will have the pleasure of seeing the
sustaining of his patient much abridged, and perhaps of
aviding the use of the forceps, in obviating many other
troublous and dangerous consequences as hemorrhage,
, exhaustion or death of the mother, and destruction of the
child, from compression of the umbilical cord, or some other
casualty. When the soft parts, instead of being in the
state I have described are rigid and unwilling, and delay
a dangerous bleed should be drawn from the arm in
such a quantity as to produce relaxation of the soft fibres,
and when this one is attained, to proceed with the
medicine. Here then in the lancet we have a remedy
which relaxes the circular fibres of the neck and mouth
& the uterus, whilst in the uterus we possess another,

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which preaches the vicarious contraction of its body, and
passes Who can view this happy arrangement of things,
without being struck with admiration of the wisdom,
and goodness of Providence, and that
placing in our hands means so effectual, for the relief
of the sufferings and danger, attendant on parturition,
which so strongly excite our sympathies, and call for our
aid. Considering however the painful consequences re-
sulting from a too hasty administration of the medicine,
I am led to urge, that the Accouchier should satisfy him
self, by a careful examination of the parts, that the disease
has produced the desired effect, previous to its use.

The dose of the Elixir, and the mode of giving it are some-
what: twenty grains of it powdered and dissolved in water,
may be taken at the first dose, and if this is not the
intended effect, it should be repeated in twenty minutes;
but this, I believe, is rare: however I have seen it given
in these cases, and in neither of them was the woman
so recovered.

Take, likewise, another medicine, and some drinkable wine

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acquiring the confidence of Medical men, and as on him a most formidable objection was alighted against it, namely that it, innumerable proved what to the child by which it would at once forfeit all claim to attention; was there the slightest foundation; for such an allegation, but experience has so fully established the sharpness that were practitioners joined in deriving the notion, and excommunicating it from having any such effect and, I believe it is generally received, at present, in difficult and tedious labours, occurring from a want of action in the uterus, and its utility allowed by all who have given it a fair trial.

It is said, and indeed it might be expected from the very nature of the Medicine, that Uterine hemorrhages, rarely or never to occur after a delivery affected by the tool; and it has been well spoken of as a remedy to restrain alarming bleedings. I have never seen the *Proph* act with this view, but our knowledge of its mode of operation corroborates the opinion, as when the tonic contractions of the uterus are wanting, after a part of the whole of the placenta has been detached from the

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organ, an hemorrhage is the certain and necessary consequence, and how our remedy surely is the one to fulfil the first, and grand indication, which is to restore the tonic contractions of the uterus, and by the forcible contractions brought on from the exhibition of the Ergot, the uterine fibres press on all sides upon the magnified vessels, not only closing their own mouths, but diminishing their enlarged calibers throughout their whole extent, and thus stops the bleeding which might otherwise prove fatal.

I come now to the consideration of the
Agency of the Ergot
in reducing
the
true Gangrene

It is not my intention, nor indeed could it be expected that I should enter into a full detail of the nature and treatment of this new interminable and terrible disease; for it would, I fear, term a week of too great trouble and infirmary to be incurred even in all its parts. I shall, therefore, leave it to some, more capable than myself of doing justice to the

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subject, as it has been said to our ^{do} main in many cases, to
be true, I shall consider it in that point of view, and as
I am made at an strict r^{es}earch in that investigation, I
do not despair of coming fairly at the truth, as far, at
least, as analogy will go, and I think, whoever reads this
paper, will join with me in believing the root to be re-
sponsible for those highly deleterious to animal life, an
not P. It must, it will no longer be but a matter of doubt,
that it is capable of producing and has often produced,
not much to be troubled and tormented ^{by} the
gangrene; for it is, at all times, important to discover and
take ^{by} ~~any~~ ^{the} ^{proper} ^{measures} of any article, but in the
most instant, I view it as ^{absolutely} important, for the
rank of all others most subject to that mortal disease
considering the root, is with many of the inhabitants
of this and most other countries, a common and usual
article of food and I am sorry to say, ^{that} our crews of
vessels are found every year to contain more and more
of this vitiated grain, which, unless some man be taken
to avert the calamity, may be productive of the most

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The first case in which rashes met with in this country, was known many years ago in France: & the periodical writers of which country are an intitled for much information respecting the disease: The first communication on the subject given to the world, was made by M. Godard in 18¹6 in a letter inserted into the Journal des Savans, by whom it was stated even at that early period, to arise from eating rye bread, tainted with the Ergot; subsequently M. Bertrand directed to the Hotel Dieu of Orleans where there were many patients with Ergotism, remarks that persons are attacked with it who live on rye bread, he has other states that the extremities of those who have it are as dry as touch wood and as macerated as Egyptian mummies. This disease commences in the extremities or parts most remote from the source of the circulation, attended generally with but little fever, inflammation or pain, the limb becomes dead, and either separated by the abscesses, or requires to be removed by the knife. It has always been found to prevail most in those seasons favorable to the

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production of the root, and to be confined to those who lived on sea: how circumstances so strong of themselves, induced to convince all who witnessed them, that this species of cancer had its origin in the use of no contaminating the root, have since been corroborated by the experiments of M. Tessier, which proved that swallows fed for one length of time with the article, were attacked with a disease similar to the very dangerous of human beings; still however the question is not settled, and doubts are held on the subject even at the present day. led by an inclination to satisfy myself with regard to this interesting question, I instituted experiments during the last summer on ducks, which though made on a small scale, afforded the most conclusive results. I shall give a history of them from the time of administering the first dose of root until the death of the fowls.

On the 23rd of June 1896, having recovered two well grown healthy ducks, I commenced by mixing the root in small quantities in their food, but was unable to disguise it in such a way as to get them to eat it; finding this to be the case, I determined to force it upon

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one of them in such a quantity as I thought sufficient for my object, I began, the 1st in the month of July, and gave him of them 30⁰ lbs. Root per time in the days of 10 grains morning, noon and evening: with this course, I soon perceived an evident change in the fowl, it became languid, lost its appetite, and there was a discharge of liquid fluid from the nose and mouth that from the nose soon became bloody and offensive, the beak became blotted, it was dark and shrivelled, the feet and toes were black and dry, & on the 15th instant this duck died, I rather believe from some accident, for although labouring under the effects of the root, mortification had not succeeded far enough to reduce it all alone. On dissection I found the stomach crass it & commonly called the gizzard red as it inflamed. The muscles of the thigh were hard and dry.

On the 16th or 17th I commenced a precisely similar course with the remaining duck, but when the disease produced in this case differed from the other, I am quite at a loss to decide. Yet the disease here produced, most

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with much propriety be called wet Gangrene; the beak of this duck instead of being dry like the former, was covered with a vesicle, the investing membrane of the bill being much elevated and containing below it a dark coloured fluid, the skin of the legs was covered with moisture, and in a few days more, worms and maggots were generated. The claws now began to fall out, the integuments covering the feet and legs sloughed away, and on the 1st. of August it died with its whole body in a state of putrefaction.

From the results of the experiments above stated, I am led to the certain conclusion that the Ergot is capable of producing the Dry Gangrene; but, at the same time, I am convinced, and indeed the fact is mentioned by Mr. Boscus; that the Gangrene is not always of the dry kind, which certainly is proved by my last experiment, the result of which was witnessed by several students, and also by Doctor S. Jackson of this City.

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